

CLAIMS

1. A thermal recording material for offset printing, comprising a support, a thermal
5 recording layer for thermally developing a color and a protective layer containing a pigment and a resin, the thermal recording layer being formed on the support, the protective layer being formed on the thermal recording layer, wherein the transfer
10 amount of water on the surface of said protective layer for a contact time period of 150 ms, measured by a Bristow method, is 3 ml/m² to 15 ml/m² and the contact angle between the surface of said protective layer and water is 60° to 100°.

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2. The thermal recording material for offset printing as recited in claim 1, wherein the transfer amount of water on the surface of said protective layer for a contact time period of 150
20 ms, measured by a Bristow method, is 7 ml/m² to 10 ml/m².

3. The thermal recording material for offset printing as recited in claim 1, wherein the
25 contact angle between the surface of said protective layer and water is 70° to 90°.

4. The thermal recording material for offset printing as recited in claim 1, wherein the

surface of said protective layer has a center plane average roughness (SRa), measured with a stylus type three-dimensional surface roughness tester, of 0.6 μm to 2 μm in a coating direction
5 at a cutoff value of 0.8 mm.

5. The thermal recording material for offset printing as recited in claim 1, wherein the surface of said protective layer has a center
10 plane average roughness (SRa), measured with a stylus type three-dimensional surface roughness tester, of 0.6 μm to 1 μm in a coating direction at a cutoff value of 0.8 mm.

15 6. The thermal recording material for offset printing as recited in claim 1, wherein the pigment contained in the said protective layer has an oil absorption, measured according to JIS-K-5101, of 200 ml/100 g to 350 ml/100 g.

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7. The thermal recording material for offset printing as recited in claim 1, wherein the pigment contained in the said protective layer has an oil absorption, measured according to JIS-K-
25 5101, of 250 ml/100 g to 300 ml/100 g.

8. The thermal recording material for offset printing as recited in any one of claims 1, 2, 4 and 6, wherein the resin in said protective layer

is at least one member of a water-dispersible resin and a non-modified polyvinyl alcohol and said protective layer has a pigment content of 40 mass% to 70 mass% based on the total solid content of said protective layer.

9. The thermal recording material for offset printing as recited in claim 1, wherein the transfer amount of water on the surface of said protective layer for a contact time period of 150 ms, measured by a Bristow method, is 7 ml/m² to 10 ml/m², the contact angle between the surface of said protective layer and water is 70° to 90°, the surface of said protective layer has a center plane average roughness (SRa), measured with a stylus type three-dimensional surface roughness tester, of 0.7 μm to 2.0 μm in a coating direction at a cutoff value of 0.8 mm, the resin in said protective layer is at least one member of a water-dispersible resin and a non-modified polyvinyl alcohol, the pigment has an oil absorption, measured according to JIS-K-5101, of 250 ml/100 g to 300 ml/100 g and said protective layer has a pigment content of 40 mass% to 70 mass% based on the total solid content of said protective layer.

10. The thermal recording material for offset printing as recited in claim 1, wherein the resin

in said protective layer is a silicon-modified
polyvinyl alcohol and the protective layer
contains a high-molecular-weight crosslinking
agent and a low-molecular-weight crosslinking
5 agent.

11. The thermal recording material for offset
printing as recited in claim 10, wherein said
high-molecular-weight crosslinking agent contains
10 a glycidyl group and contains polyamideamine as a
main chain.

12. The thermal recording material for offset
printing as recited in claim 10, wherein said low-
15 molecular-weight crosslinking agent is a compound
having an aldehyde group.

13. The thermal recording material for offset
printing as recited in claim 10, wherein said
20 high-molecular-weight crosslinking agent contains
a glycidyl group and contains polyamideamine as a
main chain, and said low-molecular-weight
crosslinking agent is a compound having an
aldehyde group.

25 14. The thermal recording material for offset
printing as recited in claim 13, wherein said
high-molecular-weight crosslinking agent is
contained in an amount of 2 mass% to 10 mass%

based on the solid content of the resin in said protective layer and said low-molecular-weight crosslinking agent is contained in an amount of 2 mass% to 8 mass% based on the solid content of the resin in said protective layer.

15. The thermal recording material for offset printing as recited in claim 10, wherein the surface of said protective layer has a center plane average roughness (SRa), measured with a stylus type three-dimensional surface roughness tester, of 0.6 μm to 2 μm in a coating direction at a cutoff value of 0.8 mm.

16. The thermal recording material for offset printing as recited claim 10, wherein said protective layer has a pigment content of 10 mass% to 50 mass% based on the total solid content of said protective layer.

17. The thermal recording material for offset printing as recited in claim 13, wherein the transfer amount of water on the surface of said protective layer for a contact time period of 150 ms, measured by a Bristow method, is 3 ml/m^2 to 10 ml/m^2 , the contact angle between the surface of said protective layer and water is 70° to 90°, the surface of said protective layer has a center plane average roughness (SRa), measured with a

stylus type three-dimensional surface roughness
tester, of 0.6 μm to 2 μm in a coating direction
at a cutoff value of 0.8 mm, and said protective
layer has a pigment content of 10 mass% to 50
5 mass% based on the total solid content of said
protective layer.